

IN THE DRAWINGS

Amend Figure 9 as shown on the attached Replacement Sheet. The amended Figure 9 includes a change in the reference character of the “EPE Print Processor” from 56 to 62.

Approval of the drawing change is hereby requested.

REMARKS

In the Office Action, the Examiner objected to the drawings, objected to the disclosure, rejected claim 43 under section 101 as directed to non-statutory subject matter, rejected claim 40 as anticipated by the Uematsu reference, rejected claims 11 - 31, 33 - 39, 43 and 44 as obvious over the Heiney reference in view of the Snyders reference, rejected claim 32 as obvious over Heiney and Snyders in view of the Porter reference, rejected claims 41 and 42 as obvious over Uematsu in view of the Goldsmith reference. Additional references are cited of interest without being relied upon.

Drawing Objection

Applicants note that the Examiner's objection refers to page and line numbers of the Marked Up copy of the specification filed with this PCT national phase application. The amendments made herein are with reference to the Substitute Specification that includes the amendments shown in the Marked Up copy. For instance, the noted paragraph on page 16 of the Marked Up copy appears on page 15 of the substitute specification and the noted paragraph on page 20 of the Marked Up copy appears on page 19 of the Substitute Specification.

The drawing Figure 9 has been amended to include to change the reference character for the "EPE Print Processor" from 56 to 62. Approval of the drawing change is hereby requested.

The specification has been amended to add the reference numbers for the parts shown in the drawing and described in the specification but not identified in the text of the specification by reference character. Applicants respectfully submit that the addition of the reference characters to the specification do not constitute the addition of new matter.

Disclosure Objection

Applicants note that the Examiner's objection refers to page and line numbers of the Marked Up copy of the specification filed with this PCT national phase application. The amendments made herein are with reference to the Substitute Specification that includes the

amendments shown in the Marked Up copy. For instance, the noted paragraph on page 16 of the Marked Up copy appears on page 15 of the substitute specification and the noted paragraph on page 20 of the Marked Up copy appears on page 19 of the Substitute Specification.

The changes proposed by the Examiner have been entered into the specification, and further amendments to the specification include the addition of reference characters where the elements shown in the drawings are described. Applicants respectfully submit that the addition of the reference characters to not constitute the addition of new matter.

35 USC 101

Applicants thank the Examiner for the helpful suggestions for addressing the rejection. The claim 43 has been amended to positively recite a computer program product including a computer program on a computer readable medium. Applicants submit that the rejection is thereby overcome.

35 USC 102(b)

Applicants respectfully submit that the Uematsu reference does not anticipate the claimed invention because the claim 40 differs from the disclosure of Uematsu. In particular, the portions of the reference cited by the Examiner disclose only updating the variable data rather than marking of the variable data. The Figure 1D noted by the Examiner shows a dotted square that does not include a reference number and which is not explained in the specification. The noted square is shown within buffers 40 and 41. The applicants' understanding of the square from the drawing is that it might represent an area within the variable image buffer 41 in which variable data is stored. However, as indicated, it is unclear from the disclosure exactly what is intended by the dotted square. Thus, it is beyond the scope of the disclosure to interpret the square as an area for marking of data.

Applicants respectfully disagree with the Examiner's characterization of the reference as disclosing the step of "separating variable data...on a basis of the marking". The Uematsu reference does not disclose marking and so does not disclose separating based on marking.

Further, the Uematsu reference does not disclose separating at all. Instead, Uematsu addresses the combination of static data and variable data within a printer. The reference is silent as to separation of the data during the entire process between the generation of the print data in the computer and the outputting of the data to the printer.

The invention as claimed includes additional steps not mentioned in the Uematsu reference that are performed in the computer system before the data is transmitted to the printer. There is no disclosure in Uematsu of any steps within the computer during generation of the print data. The reference refers to a host computer at column 4, line 65, in connection with print data interface 35, and generation of image data 2 is mentioned in column 9, line 67, but no more details are disclosed. On the other hand, the first three steps of claim 40, namely .providing a master document..., inserting...and separating... are performed within the computer system and NOT within the printer/output device.

While Uematsu primarily deals with performance enhancement within the printer, the present invention primarily deals with performance enhancement for the data transfer between print data source computer and printer/output device.

As a further difference over the Uematsu reference, the present invention provides a temporary data stream which contains static data for each document. These data are separated afterwards (see the above comment on the separating step) and then transmitted to the printer. No disclosure of these features can be found in Uematsu.

The claim 40 has been amended to further clarify the distinction over Uematsu, in particular by providing that the steps prior to transmitting the data are performed in a computer and that the steps of storing and joining are performed in an output device. The documents include both variable and static data.

Applicants submit that the invention as defined in the claims is patentably distinguished over the cited prior art.

35 USC §103

The Heiney reference assigned to International Business Machines Corporation (IBM) discloses an invention in the field of high speed, high resolution large capacity printing and in particular in the field of Print On Demand (POD) presentation environments that are capable of producing over 400 pages per minute, see Heiney, column 1 lines 19-29. It is further notable that IBM developed in this field of printing a specific Page Description Language (POL) which is not mentioned in Heiney, but which is commonly used in high speed printing for producing over 400 pages per minute. This PDL is called AFPDS and was cited and discussed on page 1 of the present application. In this environment and with this PDL, AFPDS the features disclosed in Heiney which are pertinent to claim 22 are known in the art.

The reference to Snyders does not disclose more than is shown in Figure 8 of the present application and as described on page 19. It is known that printing in the MS Windows environment is suited only for low speed printing, such as a few dozen pages per minute at most, and is not suited for high speed printing. This is mentioned in the introduction to the present application.

The teachings of high speed printing cannot be used in the field of low speed printing without considerable problems in transferring the technology. As shown in Figures 8 and 9, it was necessary to reconstruct the spooler within the Windows environment to establish the concept of a master document and auxiliary documents that are joinable to the master documents by reference to indices within a Windows printing environment. Thus, teachings of references to high speed printing and low speed printing are not combinable without a teaching as to exactly how such combination is to be accomplished. Therefore, the present invention is non-obvious over the combination of the cited references.

Claim 22 has been amended to clarify the subject matter thereof.

New Claim

A new claim 45 has been added to claim the possibility that the conversion is blocked as indicated in Figure 9.

Additional Art

The additional art cited by the Examiner but not relied upon is noted by the Applicants.

Conclusion

Applicants respectfully request favorable reconsideration and allowance of the present application in view of the foregoing.

Respectfully submitted,



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